As best seen by reference to FIG. **5**, the individual links **70** are matingly joined together to form the outwardly facing surface **72** for supporting the objects **14** for movement along a given path of travel to the inspection station **23**. This supporting surface **72** defines a plurality of substantially continuous, longitudinally oriented channels **80**. The individual continuous channels **80** receive the objects **14** and space them a given distance apart when they are received in the individual channels (FIG. **4**). The individual channels **80** are disposed in predetermined spaced, substantially parallel relation relative to the longitudinal axis **75**. As earlier noted, and as seen in the drawings, each of the objects **14** to be sorted have a height dimension indicated by the line labeled **15** (FIG. **4**), and which is represented by the variable x. In the present invention, the supporting surface **72** spaces the objects **14** a given distance apart which is equal to about 1.1x to about 2.4x. In this spacial arrangement, the imaging devices **30** are permitted to view substantially the entire surface area of the objects **14** as they pass, in free flight, through the off belt inspection station **23** and sorting station **24** respectively. In the present arrangement, the air manifold **34** (FIG. **7**), which is located in the vicinity of the sorting station **24**, is oriented about 6 inches to about 10 inches from the resulting air-borne object pattern **90**, which travels through the inspection and sorting stations **23** and **24** respectively. As illustrated in FIG. **7**, the sorting station **24** is disposed at a distance of about 5 inches to about 10 inches from the nose bar **55**, and the object pattern **90** when measured in the vertical dimension at the sorting station **24** is about 0.25 inches to about 3 inches. This dimension varies based upon the weight of the objects **14**, which are to be sorted. Further, it should be understood that the imaging devices **30** may, in one form of the invention, image across the entire width of the inspection station **23**, or in an alternative form may image only across a discrete portion of the inspection station **23**. The arrangement of the cameras is based, in some measure, upon the needs of the end user. An alternative form of the present invention is shown in FIG. **6**. It should be understood that the continuous conveyor belt **10** of this design is operable to convey larger bulk products **14**, however, the spacial relationship between the individual substantially continuous, longitudinally oriented channels **80** remains the same. As will be recognized the present modularized construction allows the continuous conveyor belt **10** to be easily repaired. In this regard, damaged links **70** can be easily removed and replaced by merely removing the respective linking rods **71**, replacing the damaged links **70**, and reinserting the interconnecting linking rods **71**.

OPERATION

The operation of the preferred embodiments of the present invention are believed to be readily apparent and are briefly summarized at this point.

A continuous conveyor belt **10** for transporting a stream of objects **14** along a given path of travel to an inspection station **23** comprises a plurality of links **70** matingly joined together to form a surface **72** for supporting the objects **14** for movement along a given path of travel to the inspection station **23**. The continuous conveyor belt **10** defines a plurality of substantially continuous, longitudinally oriented channels **80** for receiving the objects **14**, and spacing the objects **14** a given distance apart. The objects **14** have a height dimension **15** which is represented by the variable x, and wherein the given distance the longitudinally oriented channels **80** space the individual objects **14** apart is equal to about 1.1x to about 2.4x. The individual links **70** have a pitch of about 0.5 inches to about 1.5 inches, and further has a backward flex of up to about 8 degrees. Preferably, the individual links **70** are manufactured from a light-weight high strength synthetic polymer. The continuous conveyor belt **10** is entrained between a drive roller **54** and a nose bar **55** which has a diametral dimension of about 1.5 inches to about 4 inches. The continuous conveyor belt **10** propels the objects **14** into free flight and in a given air-borne pattern **90** through a sorting station **24** which is disposed downstream of, and in spaced relation relative to the nose bar **55**. The individual links **70**, when passing about the nose bar effectively minimizes the size of the object pattern **90** passing through the sorting station. This minimally sized object pattern permits the air manifold **34** to be positioned quite closely relative thereto. In this location, the air manifold becomes optimal with respect to removing undesirable objects **14**, or other debris from the object pattern **90** passing through the sorting station **24**. Still further, the spacing of the objects **14** the given distance apart, as provided by the continuous conveyor belt **10**, insures that the imaging devices **30** can view substantially the entire surface area of each of the objects **14** passing through the inspection station **23**, as well as view each of the individual objects. This, of course, prevents products, having defects, or anomalies, from going through the inspection station **23** undetected. Previously, such defects might be shielded from view by other products which are traveling adjacent thereto but in blocking relationship relative to the field of view of the imaging devices **30**.

As earlier discussed, the sorting station **24** is disposed approximately 5 inches to about 10 inches from the nose bar **55**, and the object pattern **90**, when measured in the vertical dimension at the sorting station, is about 0.25 inches to about 3 inches. Further, the air manifold **34**, which is oriented in the sorting station **24**, is positioned about 6 inches to about 10 inches from the object pattern **90** passing through the sorting station **24**. It should be understood, in certain instances, and depending upon the product type, the inspection station could be located on-belt. As illustrated in the drawings, the inspection station **23** is located off-belt.

In compliance with the statute, the invention has been described in language more or less specific as to structural features. It is to be understood, however, that the invention is not limited to specific features shown and described, since the means of construction herein disclosed, comprise preferred forms of putting the invention into effect. The invention is, therefore, claimed in any of its forms or modifications within the proper scope of the appended claims appropriately interpreted in accordance with the Doctrine of Equivalents.

We claim:

1. A continuous conveyor belt for transporting a stream of objects to an inspection station, comprising:

a plurality of links matingly joined together to form a surface for supporting the objects for movement along a given path of travel to the inspection station, and wherein the continuous conveyor belt is entrained between a drive roller and a nose bar which has a given diametral dimension, and wherein the continuous conveyor belt propels the objects into free-flight and in a given pattern through a sorting station which is disposed downstream of, and in spaced relation relative to the nose bar, and wherein the individual links when passing about the nose bar effectively minimize the size of the object pattern passing through the sorting station.

2. A continuous conveyor belt as claimed in claim **1**, wherein the nose bar is about 1.5 inches to about 4 inches in diameter.